

B³
21. (New) A method as in claim 20 wherein said aqueous solution contains about 10% diaminostilbene disulfonic acid.

REMARKS

Claim 10 stands rejected as anticipated by Schmid U.S. 4,717,502. To the extent that this rejection would be applied to claim 1 as presently amended, it is traversed for the reasons following.

As recognized by the Examiner, Schmid discloses a coating on a base paper which includes a brightener. However, this brightener is added to the coating composition when it is in aqueous form, and is distributed throughout the coating together with the binders, pigments, and dispersing agents. This is a prior art teaching which is recognized in applicant's specification at page 3. As discussed there, the problem with distributing the brightener throughout the coating, is that it requires the addition of carrier substances such as starches, CMC, and polyvinyl alcohol. These substances are referred to by Schmid as secondary binders. See col. 3, lines 53-67. A problem with such carrier substances is their high viscosity.

Another problem with the coating process disclosed by Schmid is the migration of the binders into the base paper. This is a well known problem which is discussed in the text "Synthetic Binders in Paper Coatings", page 55. A copy of this page and a PTO-1449 listing it are enclosed.

Schmid therefore discloses an optical brightener which is not only found throughout the coating, but also in the base paper. Applicant's claim 1 has been amended to make it clear that the brightener is only at the outer side of the coating layer and not throughout the coating layer. Basis for this language is found at page 5.

Since claim 10 now clearly defines over Schmid, it is not deemed necessary to address the rejections of dependent claims 11 and 12 at this time.

Claims 13-19 stand rejected as obvious over Peters in view of Schmid. This rejection is traversed for the reasons following.

Peters discloses a method of manufacturing a light stable paper comprising a yellow base paper having a first or protective coating and a second coating containing white pigments and one or more inorganic optical bleaches.

As noted in the examples at page 14, the formulations for the second coating include large quantities of white pigments and water, and relatively little inorganic bleach. When the water evaporates, the bleach is present in an amount of about 3%, with the remainder being white pigment such as B_2SO_4 or TiO_2 and binder. As such, the inorganic bleach is distributed throughout the color coating layer which is applied on the first coating. It is not only at the outer side of a color coating layer containing the white pigments and binders, because it is not applied to the color coating layer in an aqueous solution after the color coating layer is dried, as recited in applicant's claim 13.

In sum, Peters discloses a very different coating process than that recited in applicant's claim 13, and the process yields a very different coated paper than that which results from applicant's process as claimed. The presence of brightener in a relatively small amount throughout the pigmented layer blocks the UV light from reacting with the brightener to shift the wavelength into the visible range. As a result, the product is less effective than applicant; which concentrates the brightener at the outer side or surface of the pigmented layer.

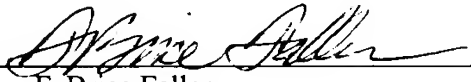
Schmid is only cited for its disclosure of a derivative of diaminostilbene disulfonic acid in place of the inorganic brighteners of Peters, and adds nothing toward rendering applicant's claim 13 obvious.

The claims being definite and clearly patentable over the art of record, withdrawal of the rejections and early allowance are solicited. If any objections remain, a call to the undersigned is requested.

It is believed that no fees or charges are required at this time in connection with the present application; however, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

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AMENDMENTS TO THE SPECIFICATION AND CLAIMS SHOWING CHANGES

IN THE SPECIFICATION:

The paragraph beginning at page 4, line 12, has been rewritten as follows:

Printing paper coated on one side is understood to mean those papers which are provided only for single-sided printing. These include, for example, label papers for bottles and can wrappers. In the same sense, printing papers coated on both sides are printed on both sides. These include, for example, magazine papers, as they are known, for illustrated magazines or catalogues, but also art papers. High-value printed products require the highest surface quality of the side to be printed. This can no longer be achieved with a single coat, as it is known. For this reason, the coating base paper is firstly coated with one or two pre-coats, as they are known, and the top coat, as it is known, is arranged[.] on them.

IN THE CLAIMS:

Claim 10 has been amended as follows:

10. (Amended) An optically brightened printing paper comprising:

a base paper having opposed sides,

a first coating layer applied to at least one side of said base paper, said coating layer comprising a pigment, a binder, and color coating supplements, said coating layer having an outer side opposite from said base paper, and

an optical brightener arranged only at said outer side of said first coating layer and not throughout said first coating layer, said optical brightener comprising a derivative of diaminostilbene disulfonic acid.